Public Safety Wireless Network

Commercial Spectrum Auctions Report Volume 2

November 1997

EXECUTIVE SUMMARY

The purpose of this report is to provide the public safety community with a quarterly update on issues related to the spectrum auctions conducted by Federal Communications Commission (FCC). The subjects covered will highlight current events pertaining to the spectrum auctions and update readers on issues discussed in the preceding spectrum auctions report. Included is information on the following —

- Updates on auctions that have already taken place
- Details on the first 14 auctions highlighted in the previous report
- Frequency bands and services to be auctioned in the future
- Spectrum reallocated from the government to the commercial sector
- Changes to auction rules and processes.

In September 1997, the FCC issued a report to Congress on the spectrum auctions, analyzing the auctions that have taken place to date, the auction processes, proposed changes to these processes, and auctions to be held in the future. The FCC indicated that it is satisfied with the results of the auctions, but recommended ways in which it believes the auctions can be improved.

Since the last edition of the Spectrum Auctions Report, the FCC has held one auction, the 800 MHz Specialized Mobile Radio (SMR) auction, in which Nextel Communications, Inc. won the overwhelming majority of SMR authorizations. The auction raised more than $96,000,000 in bids and is the second SMR auction that has been held. In addition, the FCC is planning more auctions for 1998, including —

- Local Multipoint Distribution Service (LMDS)
- Private Land Mobile Radio (PLMR)
- General Wireless Communication Service (GWCS)
- Private Carrier Paging (PCP)
- Common Carrier Paging (CCP)

Industry segments for which the FCC has held auctions, including Personal Communications Services (PCS) and Multipoint Distribution Services (MDS), may be undergoing some regulatory changes that could affect the types of services to be offered and the companies that will be offering these services. The PCS C Block licensees are dealing with repayment options on their licenses, and MDS licensees are waiting for an FCC Report and Order allowing them to offer two-way, advanced, interactive services.

Finally, this report discusses federal government spectrum (a portion of which is used by the federal government for public safety communications) that has been reallocated to the

commercial sector to be auctioned. Items examined include the bands to be reallocated, the services that will be offered on the reallocated spectrum, and the potential impact that the reallocation might have on public safety.

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1. INTRODUCTION

The federal government is making numerous modifications to the way it manages commercial spectrum, to keep pace with the pace of change in the wireless segment of the telecommunications industry. Some of these changes include—

- The Federal Government is reallocating 235 MHz of spectrum from its allocations to the private sector via the spectrum auctions.
- The Federal Communications Commission (FCC) is authorizing auctions for licenses that it previously granted virtually free of charge.
- The FCC rules for spectrum associated with new services are more loosely defined when compared to past similar regulations of the communications industry.
- The FCC is examining its auction methodology and the rules associated with commercial services to identify further improvements and refinements.
- The private sector has pledged almost $24 billion in bids and paid $12 billion to date for spectrum as a result of the auction process.
- New players are entering the telecommunications marketplace, and existing players are expanding their service offerings, thus keeping the demand for spectrum vibrant.

In the midst of these changes, public safety agencies have experienced an increasing demand for spectrum to fulfill their expanding mandates and to meet mission-critical needs. It is important for public safety agencies to understand commercial spectrum management and how it affects their ability to obtain new spectrum and manage current spectrum allocations.

1.1 Purpose

This report is intended to brief the public safety community on current events surrounding the spectrum auctions, including the FCC's analysis of the auctions and the auction process, changes to auction rules and procedures, new auctions, related developments in the commercial wireless industry, and reallocation of government spectrum for commercial auctions. The information contained in this report is intended to provide federal, state, and local public safety users with insights regarding trends in commercial spectrum management, commercial activity conducted within each respective public safety community's geographic area, and what services will be deployed in various regions nationwide. This report is intended to provide basic information on spectrum auctions and to serve as a catalyst for further discussion on the effect of commercial spectrum use on the public safety community.

2. ANALYSIS OF THE FCC'S REPORT TO CONGRESS ON THE SPECTRUM AUCTIONS

The 1993 Budget Act required the FCC to submit a report to Congress, by September 30, 1997, to evaluate the first four years of implementing auction authority. The FCC Report to Congress on Spectrum Auctions (WT Docket No. 97-150), hereafter the Report, was adopted September 30, 1997, and released October 9, 1997. In addition to presenting a historical overview of spectrum management, the Report illustrates the various auction designs presently employed, evaluates the desirability and value of auctions as a vehicle for the management of commercial spectrum, and discusses proposed auction changes. The following describes the major points made in the Report.

2.1 Overview of Auction Design

Current auction rules did not evolve of their own accord, but as a result of "rigorous discussions on auction theory."[1] To establish auction rules by the mandated March 8, 1994 deadline, the FCC gathered a multi discipline group to discuss how to best auction spectrum.

Although there are numerous methods to conduct an auction, the FCC had to design a system that would meet the needs of the unique attributes of radio spectrum. First, the FCC had to determine whether there should be single- or multiple-round auctions. The FCC chose multiple-round auctions to allow bidders to assess the bids at the end of each round and, depending on the value that they assign to the license, top the high bid in the next round. In contrast, bidders in single-round auctions have only one chance to submit an offer, and the license is awarded to the highest bidder in a single round. The multiple-round auction provides the most information to bidders with respect to how other bidders value the license. Unlike single-round auctions, where bidders have no means of assessing the value that each bidder is assigning to the license, multiple-round auctions enable bidders to see who is making which bids and then adjust their bids accordingly in the succeeding rounds.

The FCC also had to decide whether to conduct sequential or simultaneous auctions. Sequential bidding offers the advantage of high visibility into winning bids, as one license is auctioned at a time and all bidding concludes before moving on to the auctioning of the next license. However, sequential bidding does not permit bidders to completely express what they potentially would be willing to pay. Simultaneous bidding, however, permits a number of licenses to be auctioned at the same time. Bidding then continues until no further bids are placed on any of the licenses being auctioned. The FCC chose simultaneous multiple-round auctions in an effort to promote an informative bidding atmosphere.

The FCC thus established a simultaneous multiple-round construct for its auctions. Under this construct, multiple licenses are concurrently available for bidding; and bidding continues on all licenses as long as permissible bids are placed on any of the licenses. At the end of each round,

[1] FCC Wireless Telecommunications Bureau, *The FCC Report to Congress on Spectrum Auctions*, FCC 97-353, WT Docket 97-150, October 9, 1997.

the highest bid for each license is announced. Bidders then have the option of bidding again on any of the licenses they were interested in with the one restriction that the bid must be higher than the current high bid. Simultaneous multiple-round auctions allow bidders to gather information about license values throughout the course of the auction, ultimately awarding licenses to the bidders who value it the most. This procedure tends to promote rapid development and deployment of new services. The simultaneous multiple-round format also enables bidders to aggregate licenses by geographic area and/or by contiguous frequency blocks within the same geographic area.

To help handle the processing of potentially tens of thousands of bids, the Commission has since created the Automated Auction System (AAS). AAS, with the assistance of a small staff, can quickly process bids, generating round results shortly after the conclusion of each round.

2.2 FCC's Evaluation of the Auctions

The FCC maintains that auctions are by far the most effective method of assigning spectrum licenses. As explained in Volume I of the *Commercial Spectrum Auctions Report*[2], comparative hearings and lotteries did not result in a distribution of licenses that is fair or efficient. Comparative hearings were often largely subjective and marred by delays if the losing party appealed the decision to the U.S. Court of Appeals. Lotteries were introduced with hopes of accelerating the licensing process; but given the relatively low entrance fees, large numbers of applicants applied to participate, resulting in the reduction of expected cost savings and a prolonged award process. Statistically, for cellular licenses, auctions have proven to offer winning bidders the fastest transition from application to the grant of a construction.[3] The relatively low incidence of PCS license resale is another indicator that auctions are efficiently distributing spectrum licenses.[4]

Following are some of the main benefits of the auctions the FCC listed in the Report to Congress—

- **Development of New Telecommunication Companies and Services.** Auctions are being heralded as one of the triggers for the development of new wireless telecommunication companies. Increasingly, auctions include participation by small business bidders, many of which are new to the telecommunications market. New entrants often lead to increased competition, which in turn can stimulate lower prices. Furthermore, auctions have acted as a platform for the introduction of new technologies, which have lead to such service offerings as two-way paging, digital telephony, wireless cable, and multi-channel video.

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[2] Booz·Allen & Hamilton, *Commercial Spectrum Auctions Report*, November 1997.

[3] FCC Wireless Telecommunications Bureau, *The FCC Report to Congress on Spectrum Auctions*, FCC 97-353, WT Docket 97-150, October 9, 1997.

[4] The FCC points to the low rate of license resale for the narrowband PCS and broadband PCS A and B block auctions as a sign of efficient distribution and subsequently, economic efficiency.

- **Bringing Services to Rural and Underserved Areas.** The FCC, through the use of auctions and the partitioning[5] of licenses, is facilitating the delivery of these new services to rural and underserved areas. For licenses obtained through Personal Communications Service (PCS) auctions, the FCC permits the licensee to partition and sell portions of the

The TDF is funded in part by the interest earned from the upfront payments furnished by businesses wishing to participate in the spectrum auctions. The TDF can also be funded through charitable contributions and by earning returns from the loans and investments made using TDF funds.

2.3 Proposed Legislative Modifications to the Auction Process

The FCC is proposing five legislative modifications to streamline the auction process—

- The Commission is recommending that Congress approve legislation that would clarify certain provisions of the bankruptcy code so that FCC license defaultees could no longer use bankruptcy litigation as the means for refusal to yield their spectrum licenses for reauction.

- The Commission is asking Congress for explicit statutory authority allowing the FCC to manage its installment payment program without being subject to the Federal Claims Collections Standards (FCCS). Currently, its role as both a lender and a regulator makes it subject to the FCCS.

- The Commission is recommending that Congress absolve all auction rulemakings from Contract With American Advancement Act (CWAAA) requirements. The FCC contends that certain provisions of the CWAAA hinder the FCC from conducting auctions in a timely manner. Currently, the CWAAA allocates a 60-day congressional review period before "major" rules may become active. Due to the time sensitive nature of auctions, a 60-day review period greatly hinders the FCC's ability to quickly conduct an auction.

- The Commission seeks exemption for some auctions from provisions of the *Federal Acquisitions Regulations* (FAR). The FCC, which often finds itself understaffed during auctions, would like to see greater flexibility in hiring and retaining contractors. Unless "specifically authorized by statute,"[7] the FAR bars the Commission from initiating "personal services contracts." In light of the above regulation, the hiring of contract personnel can become a drawn-out process just at the time when there is a sense of urgency.

- The Commission is advocating a modification of the statute of limitations from 1 to 3 years for non-broadcast license forfeiture proceedings. Currently, the Commission has one year from the date that the purported violation occurs to initiate a "Notice of Apparent Liability for Forfeiture" (NALF). Once the 1 year statute of limitation has passed, no forfeiture proceedings may be initiated. However, if the Commission is not aware of the violation within that 1 year limit and/or requires additional time to fully investigate the violation, it will no longer have any legal means of taking action. Due

[7] *U.S. Code of Federal Regulations (CFR),* Title 48, Volume 1, Section 37.104.

to this provision, the FCC is recommending that the statute of limitations be changed from 1 to 3 years.

3. ACTUAL MODIFICATIONS TO THE AUCTION PROCESS

The FCC is searching for ways to improve the auction process. Described below are some of the changes they have instituted, as well as ideas under consideration.

3.1 Actual Modifications to the Auction Process

The FCC has adopted rules applicable to all auctions including—

- Pre-grant construction of wireless systems.
- Collusion in auctions.
- Changes effecting procedural and financial rules.

These rules are intended to simplify the auction process, encourage the participation of small businesses and minorities in the auctions, maintain the integrity of the auction process, and expedite the initiation of service to the public.

3.1.1 Permitting Pre-Grant Construction

In an FCC auction, winning bidders do not automatically win licenses; rather, they win an authorization to be the mutually exclusive applicant within a service area. Until recently, winning bidders were required to apply to the FCC for a license and a permit to begin construction of their systems. However, the FCC recently adopted pre-grant construction rules for all auction winners. These rules effectively grant winners permission to build their systems upon issuance of a public notice announcing auction winners, but before they are officially licensed to provide service. These rules apply regardless of whether petitions to deny have been filed against the licensee by a third party.

3.1.2 Steps to Prevent Collusion

In February 1997, the FCC adopted the Second Report and Order on Competitive Bidding Procedures, modifying rules for the auction process. In this order, the FCC took some steps to prevent collusion in the auctions:

- When an entity has filed a form to participate in an auction, the entity may not discuss the substance of its bids or bidding strategies with other applicants.

- If an applicant withdraws its application after the filing deadline, it is prohibited from entering into bidding agreements with other applicants. In particular, it may not enter into a bidding agreement with an applicant bidding on licenses in the geographic area(s) from which it withdrew.

- In instances of collusion allegations during the FCC's petition to deny process, the FCC may investigate or refer such complaints to the Department of Justice for investigation. Those who are found to have violated the antitrust laws, or who are found to have

violated the FCC's auction rules, may be subject to a variety of sanctions beyond those penalties they incur under the antitrust laws. These sanctions include forfeiture of their down payment or their full bid amount, revocation of their license(s), and possible prohibition from participating in future auctions.

The FCC believes that these rules are important to preserve the integrity of the auction process[8].

3.1.3 Procedural and Financial Rule Changes

Previously, the FCC was required to adopt separate rules for each auction that it held. In December 1997, the FCC adopted comprehensive and streamlined auction rules for all auctionable services, replacing the old rules. Changes to the rules fall into two categories: financial and procedural. Procedural changes include—

- Allowance for additional time before the start of future auctions for potential bidders to develop business plans, assess market conditions, and evaluate the availability of equipment

- Use of "real-time" bidding in simultaneous multiple-round auctions to keep them moving rapidly

- Requirement for electronic filing by January 1, 1999 for all applications to participate in FCC auctions.

Rules pertaining to financial considerations in the FCC auctions include—

- Suspension of the use of installment payments in all future auctions

- Provision of higher bidding credits to encourage and facilitate small business participation in auctions

- Specification of a minimum opening bid or reserve price for each auction.

The reserve pricing issue came to the forefront as a reaction to the lower than expected revenues garnered by the Wireless Communications Service (WCS) auction, in which some spectrum licenses were sold for $1.00. In the Balanced Budget Act of 1997, Congress directed the FCC to establish minimum opening bids and reasonable reserve prices in all future auctions unless the FCC determines that these actions would not be in the public interest.

3.2 Proposed Modifications to the Auction Process

The FCC is undertaking efforts to promote competition in the communications marketplace and develop rules that encourage efficient use of spectrum. Thus, it is analyzing the

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[8] FCC, *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2386-88, PP Docket No. 93-253.

auction process to determine best practices for future auctions. In the FCC's Further Notice of Proposed Rulemaking on Competitive Bidding, the FCC seeks further comment on the use of installment payments and other financial incentives for small businesses, women, minorities, and rural telephone companies. The FCC is also studying the pricing structure used in the auctions. Currently, the FCC auctions spectrum for one service area for a single price. However, it is examining the potential benefits of other pricing methods, such as combinatorial bidding.

3.2.1 Combinatorial Bidding

In the Balanced Budget Act of 1997, Congress called for the FCC to experiment with combinatorial bidding. Combinatorial bidding allows bidders to place single bids for groups of licenses. It may have advantages over other auction designs because some groups of licenses may be more valuable to bidders as a package rather than individually, thereby raising more money from the auction. The FCC has hired a consulting firm to analyze the potential effects of this approach and whether it would enhance the purpose of the spectrum auctions.

4. SPECTRUM AUCTIONS

4.1 New Information on Auctions 1- 15

The following section highlights new information on auctions discussed in Volume I of the *Commercial Spectrum Auctions Report.* Issues that have come to the forefront deal with the PCS and Multipoint Distribution Service (MDS) industries. The deadline is fast approaching for financially troubled PCS C Block licensees to select a payment option on their licenses. The MDS industry is advocating issues in an FCC MDS rulemaking that will affect the technical rules for the construction of their systems and allow them to offer advanced, interactive services.

4.1.1 Personal Communications Service

In September 1997, the FCC approved a debt-restructuring plan for financially troubled PCS C block licensees. The plan offers four options for licensees—

- Status quo—licensee can continue making installment payments
- Amnesty—licensee can return all its licenses and forfeit its original 10 percent down payment
- Disaggregation—licensee can return half its spectrum and have a corresponding 50 percent of its debt forgiven
- Prepayment/full-price buy-out plan—licensee can purchase as many of its licenses as it could afford by pooling 70 percent of down payments already made, but forfeiting the remaining 30 percent.

In November 1997, several PCS C Block licensees petitioned the FCC to modify its debt restructuring plan for financially troubled PCS C Block auction winners. The C Block licensees want the FCC to adopt more lenient provisions, such as—

- Allowing companies to pool all of their down payments, rather than limit pooling to 70 percent
- Lowering buyout prices to reflect that they have been purchased outright rather than over time
- Allowing a modest deferral of payment obligations to enable licensees to devote capital to build-out activities in the near term, but still make full payments.

Thus far, the FCC has not modified its original plan. Payment on PCS C Block licenses was suspended as of March 31, 1997, but is scheduled to recommence on March 31, 1998. C Block

licensees are required to inform the FCC which option they plan to take by March 31, 1998[9].

4.1.2 Multipoint Distribution Service

In March 1997, a coalition of MDS operators, licensees, educators, and others in the industry petitioned the FCC to initiate a rulemaking on the authorization of two-way signal transmission over MMDS frequencies. In October 1997, the FCC began a rulemaking process on this and other issues, including interference protection, return links, and cellularization of network architectures. MMDS licensees are petitioning the FCC for flexible use of their licenses to enable the offering of more advanced services, such as interactive video, high-speed data transmission, and voice services. It is expected that the FCC will make a final ruling on these issues in 1998.

4.2 Recently Completed Spectrum Auctions

Since the last edition of this report, the FCC has completed one auction—the 800 MHz SMR Auction. The details of the auction and rules for the service are explained below, and Appendix B provides a list of auction winners.

4.2.1 Auction 16¾ Specialized Mobile Radio Service

Table 4-1
Specialized Mobile Radio 800 MHz Basic Auction Data

Service	Frequency Range (MHz)	Auction Date
800 MHz Services	A Block: Channels 401–420 861.0–861.5 MHz paired with 816.0–816.5 MHz B Block: Channels 421–480 861.5—863.0 MHz paired with 816.5-818.0 MHz C Block: Channels 481-600 863.0-866.0 MHz paired with 818.0-821.0 MHz	October 28–December 8, 1997

On December 15, 1995, the FCC issued new 800 MHz SMR licensing rules, announcing that it would auction the upper 200 channels of the 800 MHz SMR band. The FCC currently awards SMR licenses on a geographic basis rather than a site by site basis.[10] SMR service was first established in 1979 when 800 MHz was reallocated to provide land mobile communications.

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[9] FCC, *Commission Changes Date for C-Block Licensees to Elect Restructuring Options; Announces C-Block Reauction Date*, News Release, January 7, 1998.

[10] The FCC traditionally granted licenses to SMR systems based on the location of base stations.

The reallocation was largely due to the increased congestion in the very high frequency (VHF) and ultra high frequency (UHF) spectrum.[11] SMR was primarily used as a dispatch service[12], but technological advances are making data and facsimile services possible as well as acknowledgement paging, inventory tracking, credit card authorization, automatic vehicle location, fleet management, remote database access and voicemail. Some public-safety agencies and other government entities use SMR service providers in lieu, or as in augmentation to, private land mobile radio networks.

The 800 MHz SMR auction lasted from October 28 to December 8, 1997, bringing in $96,232,060 in net bids. The FCC awarded 525 licenses —

capabilities, Nextel points to iDEN's ability to support one-to-one private communications between two mobile/portable Nextel units, features especially useful during multi-agency public safety efforts. Nextel strongly advocates permitting commercial entities to provide communication services to the public safety community. In doing so, Nextel believes that technological innovation, stemming from increased competition, would lead to interoperability improvements.

Table 4- 2
Specialized Mobile Radio 800 MHz Winning Bidders

Bidder Name	FCC's Bidder Designations	Number of Licenses Won
Nextel Communications Inc.	Other	475
Neveda Wireless	Very Small Business	16
CELLUTECH	Very Small Business	8
Southern LINC	Other	7
Silver Palm Communications	Very Small Business	4
Porta-Phone Paging Licensee	Other	3
MID-STATES WIRELESS, INC.	Small Business	3
Jamestown Communications Inc.	Small Business	2
North Sight Communications Inc.	Very Small Business	1
High Tech Communications	Small Business	1
Communications Pacific Inc.	Very Small Business	1
Mountain SMR Group	Very Small Business	1
Hawaiian SMR Co.	Other	1
Supreme Radio Communications	Very Small Business	1
FCC	One license held by the FCC	1
Total		525

Licensees have a total of 5 years to construct their stations. They have 3 years to construct and operate a sufficient number of base stations that provide coverage to at least one-third of the population of its EA-based service area. The percentage climbs to two-thirds at the close of 5 years.[18] Additionally, there is a channel use rule that requires licensees to construct 50 percent of the total channels included in their spectrum block in at least one location in their respective

[18] *CFR*, Title 47, Volume 5, Section 90.685.

service area within 3 years.[19] The term of the license is not to exceed 10 years; thereafter, license renewals are expected to go only to those stations put into service after August 10, 1996.

Incumbent licensees[20] are entitled to co-channel protection by EA licensees as well as adjacent channel interference protection. Incumbents will be permitted to add, remove or modify transmitter sites within their originally-licensed service area without notifying the FCC as long as their power limits do not exceed FCC regulated limits, and the stations meet the FCC's interference protection criteria.[21]

4.3 Pending and New Auctions

The value of spectrum is difficult to determine. It is based on a variety of factors, including the amount of spectrum to be auctioned to a particular service, the location and technical characteristics of the spectrum, FCC rules governing the services to be offered on the spectrum, market conditions, the demographics of the areas the licenses cover, availability of equipment, amount of spectrum already designated for similar services, and number of incumbents (if any) already licensed on the same spectrum in the same geographic area. Thus far, approximately $24 billion has been bid on the spectrum, and the FCC has collected in excess of $12 billion in revenues. The Congressional Budget Office (CBO) projects that the FCC will raise another $16 billion from the Local Multipoint Distribution Service (LMDS), paging, SMR, 220 MHz, and PCS auctions. The CBO also projects that the frequencies to be auctioned per the Balanced Budget Act of 1997 could raise another $25 billion between 1998–2007[22].

The FCC has announced 11 auctions for 1998. The auctions are listed in Table 4-3. The FCC has set a date for the LMDS, PLMR, and GWCS auctions, and has released rules but not yet announced a date for the Private Carrier Paging (PCP) and Common Carrier Paging (CCP) auction.

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[19] Ibid.

[20] Incumbent licensees are those who obtained 800 MHz SMR licenses or filled applications on or before December 15, 1995.

[21] *CFR*, Title 47, Volume 5, Section 90.693.

[22] *FCC Report to Congress on the Spectrum Auctions*, Federal Communications Commission Wireless Telecommunications Bureau, September 30, 1996.

Table 4-3
FCC 1998 Auction Schedule

Service	Frequency Range	Auction Date
Public Coast Stations	2-26, 156–162, and 217–220 MHz	To Be Determined (TBD)
Lower Band Paging	35–36, 43–44, 152–159, 454–460 MHz	TBD
Private Land Mobile Radio (PLMR)	220–222 MHz band	May 19, 1998
Lower 200 Channels – Specialized Mobile Radio (SMR)	806–809.750, 851–854.750 MHz	TBD
Narrowband PCS	901–902, 930–931, 940–941 MHz	TBD
Common Carrier Paging (CCP) and Private Carrier Paging (PCP)	929 and 931 MHz band	TBD
Location Monitoring Services	904–909.750, 927.750–928, 919.750–921.750, 927.500–927.750, 921.750–927.250, 927.250–927.500 MHz	TBD
Multiple Address Systems	928–929, 932-932.5, 941–941.5, 952–952.85, 956.25–956.45, 959.85–960 MHz	TBD
General Wireless Communications Services	4660–4685 MHz	May 27, 1998
Local Multipoint Distribution Service (LMDS)	27,500–28,350, 29,100–29,250, 31,075–31,225, 31,000–31,075, 31,225–31,300	February 18, 1998
37/39 GHz (Point to Point Fixed Wireless)	37.0–38.6, 38.6–40 GHz	TBD

4.3.1 Auction 17 ¾ Local Multipoint Distribution Service

Table 4-4
Local Multipoint Distribution Service Basic Auction Data

Service	Frequency Range (MHz)	Auction Date
Local Multipoint Distribution Service (LMDS)	A Block–27,500–28,350, 29,100–29,250, 31,075–31,225 B Block–31,000–31,075, 31,225–31,300	February 18, 1998

LMDS is a fixed, point-to-multipoint, emerging technology that has the capabilities to offer subscribers a variety of one and two-way broadband services. LMDS has the potential to evolve into a technology that will provide a wide array of telecommunications services and introduce competition into a local market captured by the Regional Bell Operating Companies (RBOCs). LMDS is capable of offering videoconferencing, voice services, Local Area Network (LAN)/Wide Area Network (WAN) capabilities, telemedicine, remote access to LANs, video-on-demand, real time multimedia file transfer, and wireless local loop-based services.

The FCC has issued two licenses for LMDS service, both belonging to CellularVision of New York. In February 1998, the FCC is planning to auction the remaining 984 authorizations[23] dedicated to LMDS[24]. As a result, 1.3 gigahertz (GHz) will be made available for LMDS. The LMDS auction represents the largest slice of spectrum ever sold in the United States, larger than all the previous FCC spectrum auctions combined. The LMDS licenses to be auctioned will be partitioned along Basic Trading Area (BTA) boundaries and there will be two licenses auctioned per BTA. The auction was originally scheduled to be held on December 10, 1997; but the FCC postponed it until February 18, 1998 to allow bidders the opportunity to find additional sources of capital, including foreign investment.

A recent World Trade Organization (WTO) agreement that opens international telecommunications markets is being implemented by the FCC in a number of ways, including granting foreign investment and foreign participation in the LMDS auction. Accordingly, the FCC approved Telecom Finland's application to bid in the LMDS auction.

To introduce telecommunications competition, the FCC placed limitations on in-region cable companies and local exchange carriers (LEC) from owning A Block licenses (1150 MHz) where 10 percent or more of the BTA population is within their authorized franchised or service areas. The LECs appealed this partial ban to the U.S. Court of Appeals, but the Court has not yet

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[23] Winning bidders in FCC auctions win "authorizations." An authorization gives a bidder the right to be the sole license applicant for the frequency and service area it won. Upon the FCC's acceptance of the bidder's application, the FCC grants the bidder a license.

[24] Licenses in the New York City BTA will not be auctioned because they are already owned by CellularVision.

ruled on this case. These companies are, however, permitted to bid on A and B block licenses in the LMDS auction by partitioning the LMDS BTAs they win so that holdings in their service area(s) fall below the 10 percent limit.

The FCC established general guidelines for LMDS licensees and allows for flexible use of the licenses. There are no restrictions on the number of licenses a given entity may acquire, and all licensees are permitted to disaggregate[25] and partition their licenses. Qualifying small businesses are eligible to receive bidding credits from 25 to 45 percent in the LMDS auction. Bidding credits amount to discounts on the final payments for a license. Licensees will be required to provide what the FCC defines as "substantial service" in their service areas within 10 years.

4.3.2 Auction 18¾ Private Land Mobile Radio Service

Table 4-5
Private Land Mobile Radio Service Basic Auction Data

Service	Frequency Range (MHz)	Auction Date
Private Land Mobile Radio (PLMR)	220–222 MHz	May 19, 1998

The FCC has stated that its rules for PLMR service are intended to establish a regulatory framework that will facilitate efficient licensing of the 220–222 MHz band and enhance competition in the mobile services marketplace. Thirty nationwide and non-nationwide channels will be offered. The nationwide channels will be assigned in the form of three 10-channel authorizations. The non-nationwide authorizations will be divided into 50 channels in 175 EAs, and 75 channels in 6 Regional Economic Area Groupings.

4.3.2.1 Public Safety Allocation

Within the non-nationwide band, the FCC set aside 10 non-trunked channels in the 220-222 MHz band (designated as channels 161–170) exclusively for use by public safety agencies. These channels are not subject to competitive bidding. Five of the 10 channel pairs (channels 161 –165), are assigned to public safety on a non-exclusive, shared basis. Public safety licensees operating on these channels in a given geographic area will coordinate the location of base stations to maximize interoperability. The remaining five channel pairs (channels 166–170) are assigned exclusively to public safety licensees on an individual basis[26].

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[25] Disaggregating" licenses refers to splitting licenses into smaller frequency blocks.

[26] FCC, *Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220- 222 MHz Band by the Private Land Mobile Radio Service*, Third Report and Order, Fifth Notice of Proposed Rulemaking, GN Docket No. 93–252, February 19, 1997.

4.3.3 Private Carrier and Common Carrier Paging Services

Table 4-6
Private Carrier and Common Carrier Paging Service Basic Auction Data

Service	Frequency Range (MHz)	Auction Date
Private Carrier Paging (PCP) Common Carrier Paging (CCP)	929 MHz 931 MHz	to be determined

The FCC plans to auction frequencies in the 929 and 931 MHz bands allocated to PCP and CCP services in 1998, but has not yet set a date. PCP refers to a private paging network; CCP refers to a commercial paging network.

The FCC established some of the rules for these services, but is undecided on others and seeks comment.[27] There will be some nationwide licensing in both bands, but the majority of channels will be assigned according to geograpP

radiolocation services, and satellite services. Licensees could potentially use this spectrum for dispatch services, point-to-point microwave, aeronautical radio and visual services, wireless local loop services, and terrestrial fixed and mobile auxiliary broadcast operations[28,29].

4.3.5 New Auctions Mandated by the Balanced Budget Act of 1997

In the Balanced Budget Act of 1997, Congress authorized a number of new initiatives regarding radio spectrum auctions, including—

- Terminated the FCC's authority to hold lotteries for licenses
- Enpowered the FCC to auction television or radio authorizations between competing applicants filed at the FCC before July 1, 1997
- Established criteria for reassignment of government spectrum for commercial use (discussed in Section 5 of this document)
- Allocated 24 MHz for public safety use and 36 MHz for commercial use in the 746–806 range.
- Made additional radio spectrum available by auction, as listed in Table 4-7.

28 FCC, *Allocation for Spectrum Below 5 GHz Transferred from Federal Government Use,* Second Report and Order, ET Docket No. 94–32, August 2, 1995.

29 FCC, *FCC Announces Auction Schedule for the General Wireless Communications Service,* Public Notice, DA 97–2634, December 17, 1997.

Table 4-8
New Auctions Mandated By the Balanced Budget Act of 1997

Current Designation	Range (MHz)	Amount of Spectrum (MHz)	Action
Government Fixed & Mobile (part of 235 MHz of federal government spectrum identified in 1995 for commercial reallocation by the FCC and NTIA.)	1710–1755	45	begin auction after January 1, 2001
Emerging Technology Band	2110–2150	40	Complete actions to assign by September 30, 2002
Broadcast Auxiliary; Mobile Satellite Systems	1990–2110	15	Complete actions to assign by September 30, 2002
Government Spectrum	to be determined	20	Complete actions to assign by September 30, 2002
Recaptured Broadcast Channels	698–746 and 54–72, 76–88, or 668–698	78	Complete assignment and report revenues by September 30, 2002
Broadcast Channels 60–69	746–764, 776–794	36	Allocated by January 1, 1998, begin auction after January 1, 2001
Total:		234	

5. REALLOCATION OF GOVERNMENT SPECTRUM FOR COMMERCIAL AUCTIONS

5.1 Federal Spectrum Reallocation

In the Omnibus Budget Reconciliation Act of 1993, Congress directed the FCC to identify spectrum and develop a plan for frequencies to be transferred from the Federal Government to the private sector. In March 1995, the NTIA identified 235 MHz of federal spectrum for private sector use. In March 1996, the FCC approved a reallocation plan for that 235 MHz. Twelve bands of frequencies, aggregated into four groups, comprise the total amount of spectrum to be transferred. The FCC established a schedule of rulemaking proceedings for each group in accordance with the timetable for the release of the spectrum bands as determined by the National Telecommunications and Information Administration (NTIA). Starting in 1995, 50 MHz of non-public safety Federal Government spectrum was released. The remaining spectrum is to be allocated and assigned gradually over a 10-year period, with a significant portion to be held in reserve after the end of the 10-year period[30].

Of the remaining 185 MHz slated to be transferred to the private sector, 45 MHz in the 1710–1755 MHz band is currently used for federal public safety purposes. In the Balanced Budget Act of 1997, Congress directed the FCC to conduct auctions of this spectrum no later that January 1, 2001. Federal public safety uses of this band include[31]—

- FAA remote data transmission of critical flight safety data
- Microwave links for control of land mobile radio systems necessary in firefighting, law enforcement, and disaster control within national forests
- Provision of voice and data connections between sites where commercial service is not available
- Microwave links for law enforcement communications by the Department of Justice and the Department of the Treasury.

Even though this spectrum is slated to be transferred to the private sector, numerous federal government users will stay on this band indefinitely. Hundreds of federal fixed microwave systems are located in this band and may not be reallocated to private sector use. Due to the number of government agencies remaining on this spectrum, commercial development may be impossible in major metropolitan areas, and coordination between commercial and government users will be necessary. Areas where defense facilities are located, which encompass much of the east and west coasts and considerable inland areas, will require the most coordination. In spite of these issues, the Industrial Telecommunications Association (ITA), reportedly sees the 1710–

[30] FCC, *FCC Approves Reallocation Plan for 185 MHz of Spectrum Released from Government Use; Establishes a Rule Making Schedule*. General Action, Report No. GN 96–4, March 22, 1996.

[31] NTIA. *Spectrum Use Summary 137 MHz- 10 GHz*, July 15, 1996.

1755 MHz band as a home for advanced wireless industrial communications such as transaction processing, facsimile, snapshots, slow and full-motion video, and remote file access[32].

Table 5-1
1710 - 1755 MHz Reallocation

Frequency Band	Former Federal Users	Private Allocation
1710–1755 MHz	Departments of Agriculture, Commerce, Energy, Interior, Justice, the Treasury; the Federal Aviation Administration, and the Federal Emergency Management Agency.	No later than January 1, 2001

5.1.2 Relocation of Federal Government Stations

The Balanced Budget Act of 1997 established guidelines for relocation of Federal Government stations from bands that have been identified for commercial use. According to the BBA—

> "…any Federal entity which operates a Federal Government station may accept from any person payment of the expense of relocating the Federal entity's operations from one or more frequencies to another frequency or frequencies, including the costs of any modification, replacement, or reissuance of equipment, facilities, operating manuals, or regulations incurred by that entity. Such payments may be in advance of relocation and may be in cash or in kind.[33]"

There have been no FCC rulemakings regarding services or rules for the first block of Federal government public safety identified for auction, the 1710-1755 MHz band. Thus, the impact of Federal government system relocation is not yet evident.

5.2 2 Gigahertz (GHz) Spectrum Reallocation

As discussed in the previous *Commercial Spectrum Auction Report*, the FCC required that incumbent microwave operators located in the 2 GHz range relocate to another frequency band to make way for PCS providers. The FCC has developed a framework for incumbent 2 GHz users and PCS licensees to negotiate relocation agreements. To date, more than 2,174 links have been registered with the PCS microwave clearinghouse[34]. The 2 GHz spectrum relocation involves

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[32] Bennett Z. Kobb, *Spectrum Guide: Radio Frequency Allocations in the United States, 30 MHz- 300 GHz.*, Third Edition, 1996.

[33] Congress, *Balanced Budget Act of 1997*, Title III-Communications and Spectrum Allocation Provisions, Section 3002(g).

[34] The Personal Communications Industry Association (PCIA) and the Industrial Telecommunications Association are the FCC selected microwave clearinghouses. The number of links and sites registered with the clearinghouse was obtained from a conversation with Gary Losi, Public Relations, PCIA. ITA's number of registered links are not publicly available.

anything from returning or retrofitting existing microwave radios operating on a different portion of the spectrum to physically removing dishes from towers and rooftops.

6. CONCLUSION

Auctions are becoming the predominant way spectrum is assigned and licensed. Since 1993, FCC spectrum auctions have awarded more than 4,300 licenses to auction winners who are either offering or preparing to offer service to the public in nine different wireless and satellite markets. Congress has authorized 235 MHz of federal government spectrum to be transferred and auctioned to commercial users, and has set a timetable for the auction of many of these frequencies. Congress has also extended the FCC's auction authority to the year 2007.

In addition to holding auctions, the FCC has been examining practices to improve and streamline the auction process and service rules. The changes taking place at the FCC point to a new era of less stringent regulation of commercial spectrum. The implementation of new methodologies and rules should increase the efficiency of the auction process and facilitate more rapid deployment of advanced wireless services in all markets across the United States.

These developments in the commercial wireless market have influenced all aspects of the telecommunications industry and as a result, affect the public safety communications domain. Advancements in wireless technologies and more varied service offerings will influence public safety communications equipment and its potential uses. Widespread availability of commercial services could present opportunities for public safety agencies to access commercial networks, thereby alleviating congestion on their existing networks. As a sizeable telecommunications user community, public safety entities should be aware of the rapid changes taking place in the telecommunications arena.

APPENDIX A
ACRONYMNS

AAS	Automated Auction System
BBA	Balanced Budget Act
BTA	Basic Trading Area
CBO	Congressional Budget Office
CCP	Common Carrier Paging
CWAA	Contract With America Advancement Act
FAR	Federal Acquisition Regulations
EA	Economic Area
FCC	Federal Communications Commission
FCCS	Federal Claims Collection Standards
GHz	Gigahertz
GWCS	General Wireless Communications Service
ITA	Industrial Telecommunications Association
LAN	Local Area Network
LEC	Local Exchange Carrier
LMDS	Local Multipoint Distribution Service
MMDS	Multichannel Multipoint Distribution Service
MHz	Megahertz
NALF	Notice of Apparent Liability of Forfeiture
NTIA	National Telecommunications and Information Administration
PCP	Private Carrier Paging
PCS	Personal Communications Service
PLMR	Private Land Mobile Radio
RBOC	Regional Bell Operating Companies
SMR	Specialized Mobile Radio
TDF	Telecommunications Development Fund
UHF	Ultra High Frequency
VHF	Very High Frequency
WAN	Wide Area Network
WCS	Wireless Communication Service
WTO	World Trade Organization

APPENDIX B
800 MHz SPECIALIZED MOBILE RADIO (SMR) AUCTION WINNERS*

Market No	Freq Block	License Description	Name
E001	A	Bangor, ME	Nextel License Acquisition Corp.
E001	B	Bangor, ME	Nextel License Acquisition Corp.
E001	C	Bangor, ME	Nextel License Acquisition Corp.
E002	A	Portland, ME	Nextel License Acquisition Corp.
E002	B	Portland, ME	Nextel License Acquisition Corp.
E002	C	Portland, ME	Nextel License Acquisition Corp.
E003	A	Boston-Worcester-Lawrence-Lowe, MA	Nextel License Acquisition Corp.
E003	B	Boston-Worcester-Lawrence-Lowe, MA	Nextel License Acquisition Corp.
E003	C	Boston-Worcester-Lawrence-Lowe, MA	Nextel License Acquisition Corp.
E004	A	Burlington, VT-NY	Nextel License Acquisition Corp.
E004	B	Burlington, VT-NY	Nextel License Acquisition Corp.
E004	C	Burlington, VT-NY	Nextel License Acquisition Corp.
E005	A	Albany-Schenectady-Troy, NY	Nextel License Acquisition Corp.
E005	B	Albany-Schenectady-Troy, NY	Nextel License Acquisition Corp.
E005	C	Albany-Schenectady-Troy, NY	Nextel License Acquisition Corp.
E006	A	Syracuse, NY-PA	Nextel License Acquisition Corp.
E006	B	Syracuse, NY-PA	Nextel License Acquisition Corp.
E006	C	Syracuse, NY-PA	Nextel License Acquisition Corp.
E007	A	Rochester, NY-PA	Nextel License Acquisition Corp.
E007	B	Rochester, NY-PA	Nextel License Acquisition Corp.
E007	C	Rochester, NY-PA	Nextel License Acquisition Corp.
E008	A	Buffalo-Niagara Falls, NY-PA	Nextel License Acquisition Corp.
E008	B	Buffalo-Niagara Falls, NY-PA	Nextel License Acquisition Corp.
E008	C	Buffalo-Niagara Falls, NY-PA	Nextel License Acquisition Corp.
E009	A	State College, PA	Nextel License Acquisition Corp.
E009	B	State College, PA	Nextel License Acquisition Corp.
E009	C	State College, PA	Nextel License Acquisition Corp.
E010	A	New York-No. New Jersey-Long Island, NY	Nextel License Acquisition Corp.
E010	B	New York-No. New Jersey-Long Island, NY	Nextel License Acquisition Corp.

E010	C	New York-No. New Jersey-Long Island, NY	Nextel License Acquisition Corp.
E011	A	Harrisburg-Lebanon-Carlisle, PA	Nextel License Acquisition Corp.
E011	B	Harrisburg-Lebanon-Carlisle, PA	Nextel License Acquisition Corp.
E011	C	Harrisburg-Lebanon-Carlisle, PA	Nextel License Acquisition Corp.
E012	A	Philadelphia-Wilmington-Atl. City, PA-DE-NJ	Nextel License Acquisition Corp.
E012	B	Philadelphia-Wilmington-Atl. City, PA-DE-NJ	Nextel License Acquisition Corp.
E012	C	Philadelphia-Wilmington-Atl. City, PA-DE-NJ	Nextel License Acquisition Corp.
E013	A	Washington-Baltimore, DC-MD-VA	Nextel License Acquisition Corp.
E013	B	Washington-Baltimore, DC-MD-VA	Nextel License Acquisition Corp.
E013	C	Washington-Baltimore, DC-MD-VA	Nextel License Acquisition Corp.
E014	A	Salisbury, MD-DE-VA	Nextel License Acquisition Corp.
E014	B	Salisbury, MD-DE-VA	Nextel License Acquisition Corp.
E014	C	Salisbury, MD-DE-VA	Nextel License Acquisition Corp.
E015	A	Richmond-Petersburg, VA	Nextel License Acquisition Corp.
E015	B	Richmond-Petersburg, VA	Nextel License Acquisition Corp.
E015	C	Richmond-Petersburg, VA	Nextel License Acquisition Corp.
E016	A	Staunton, VA-WV	Nextel License Acquisition Corp.
E016	B	Staunton, VA-WV	Nextel License Acquisition Corp.
E016	C	Staunton, VA-WV	Nextel License Acquisition Corp.
E017	A	Roanoke, VA-NC-WV	Nextel License Acquisition Corp.
E017	B	Roanoke, VA-NC-WV	Nextel License Acquisition Corp.
E017	C	Roanoke, VA-NC-WV	Nextel License Acquisition Corp.
E018	A	Greensboro-Winston-Salem-High Point, NC	Nextel License Acquisition Corp.
E018	B	Greensboro-Winston-Salem-High Point, NC	Nextel License Acquisition Corp.
E018	C	Greensboro-Winston-Salem-High Point, NC	Nextel License Acquisition Corp.
E019	A	Raleigh-Durham-Chapel Hill, NC	Nextel License Acquisition Corp.
E019	B	Raleigh-Durham-Chapel Hill, NC	Nextel License Acquisition Corp.

E019	C	Raleigh-Durham-Chapel Hill, NC	Nextel License Acquisition Corp.
E020	A	Norfolk-Virginia Beach-Newport	Nextel License Acquisition Corp.
E020	B	Norfolk-Virginia Beach-Newport	Nextel License Acquisition Corp.
E020	C	Norfolk-Virginia Beach-Newport	Nextel License Acquisition Corp.
E021	A	Greenville, NC	Nextel License Acquisition Corp.
E021	B	Greenville, NC	Nextel License Acquisition Corp.
E021	C	Greenville, NC	Nextel License Acquisition Corp.
E022	A	Fayetteville, NC	Nextel License Acquisition Corp.
E022	B	Fayetteville, NC	Nextel License Acquisition Corp.
E022	C	Fayetteville, NC	Nextel License Acquisition Corp.
E023	A	Charlotte-Gastonia-Rock Hill, NC	Nextel License Acquisition Corp.
E023	B	Charlotte-Gastonia-Rock Hill, NC	Nextel License Acquisition Corp.
E023	C	Charlotte-Gastonia-Rock Hill, NC	Nextel License Acquisition Corp.
E024	A	Columbia, SC	Nextel License Acquisition Corp.
E024	B	Columbia, SC	Nextel License Acquisition Corp.
E024	C	Columbia, SC	Nextel License Acquisition Corp.
E025	A	Wilmington, NC-SC	Nextel License Acquisition Corp.
E025	B	Wilmington, NC-SC	Nextel License Acquisition Corp.
E025	C	Wilmington, NC-SC	Nextel License Acquisition Corp.
E026	A	Charleston-North Charleston, SC	Nextel License Acquisition Corp.
E026	B	Charleston-North Charleston, SC	Nextel License Acquisition Corp.
E026	C	Charleston-North Charleston, SC	Nextel License Acquisition Corp.
E027	A	Augusta-Aiken, GA-SC	Nextel License Acquisition Corp.
E027	B	Augusta-Aiken, GA-SC	Nextel License Acquisition Corp.
E027	C	Augusta-Aiken, GA-SC	Nextel License Acquisition Corp.
E028	A	Savannah, GA-SC	Nextel License Acquisition Corp.
E028	B	Savannah, GA-SC	Nextel License Acquisition Corp.
E028	C	Savannah, GA-SC	Nextel License Acquisition Corp.
E029	A	Jacksonville, FL-GA	Nextel License Acquisition Corp.
E029	B	Jacksonville, FL-GA	Nextel License Acquisition Corp.
E029	C	Jacksonville, FL-GA	Nextel License Acquisition Corp.

E030	A	Orlando, FL	Nextel License Acquisition Corp.
E030	B	Orlando, FL	Nextel License Acquisition Corp.
E030	C	Orlando, FL	Nextel License Acquisition Corp.
E031	A	Miami-Fort Lauderdale, FL	Nextel License Acquisition Corp.
E031	B	Miami-Fort Lauderdale, FL	Nextel License Acquisition Corp.
E031	C	Miami-Fort Lauderdale, FL	Nextel License Acquisition Corp.
E032	A	Fort Myers-Cape Coral, FL	Nextel License Acquisition Corp.
E032	B	Fort Myers-Cape Coral, FL	Nextel License Acquisition Corp.
E032	C	Fort Myers-Cape Coral, FL	Nextel License Acquisition Corp.
E033	A	Sarasota-Bradenton, FL	Nextel License Acquisition Corp.
E033	B	Sarasota-Bradenton, FL	Nextel License Acquisition Corp.
E033	C	Sarasota-Bradenton, FL	Nextel License Acquisition Corp.
E034	A	Tampa-St. Petersburg-Clearwater, FL	Nextel License Acquisition Corp.
E034	B	Tampa-St. Petersburg-Clearwater, FL	Nextel License Acquisition Corp.
E034	C	Tampa-St. Petersburg-Clearwater, FL	Nextel License Acquisition Corp.
E035	A	Tallahassee, FL-GA	Porta-Phone Paging Licensee Corp.
E035	B	Tallahassee, FL-GA	Nextel License Acquisition Corp.
E035	C	Tallahassee, FL-GA	Nextel License Acquisition Corp.
E036	A	Dothan, AL-FL-GA	Nextel License Acquisition Corp.
E036	B	Dothan, AL-FL-GA	Nextel License Acquisition Corp.
E036	C	Dothan, AL-FL-GA	Nextel License Acquisition Corp.
E037	A	Albany, GA	Porta-Phone Paging Licensee Corp.
E037	B	Albany, GA	Nextel License Acquisition Corp.
E037	C	Albany, GA	Nextel License Acquisition Corp.
E038	A	Macon, GA	Nextel License Acquisition Corp.
E038	B	Macon, GA	Nextel License Acquisition Corp.
E038	C	Macon, GA	Nextel License Acquisition Corp.
E039	A	Columbus, GA-AL	Porta-Phone Paging Licensee Corp.
E039	B	Columbus, GA-AL	Nextel License Acquisition Corp.
E039	C	Columbus, GA-AL	Nextel License Acquisition Corp.
E040	A	Atlanta, GA-AL-NC	Nextel License Acquisition Corp.
E040	B	Atlanta, GA-AL-NC	Nextel License Acquisition Corp.
E040	C	Atlanta, GA-AL-NC	Nextel License Acquisition Corp.
E041	A	Greenville-Spartanburg-Anderson, SC	Nextel License Acquisition Corp.
E041	B	Greenville-Spartanburg-Anderson, SC	Nextel License Acquisition Corp.

E041	C	Greenville-Spartanburg-Anderson, SC	Nextel License Acquisition Corp.
E042	A	Asheville, NC	Nextel License Acquisition Corp.
E042	B	Asheville, NC	Nextel License Acquisition Corp.
E042	C	Asheville, NC	Nextel License Acquisition Corp.
E043	A	Chattanooga, TN-GA	Nextel License Acquisition Corp.
E043	B	Chattanooga, TN-GA	Nextel License Acquisition Corp.
E043	C	Chattanooga, TN-GA	Nextel License Acquisition Corp.
E044	A	Knoxville, TN	Nextel License Acquisition Corp.
E044	B	Knoxville, TN	Nextel License Acquisition Corp.
E044	C	Knoxville, TN	Nextel License Acquisition Corp.
E045	A	Johnson City-Kingsport-Bristol, TN	Nextel License Acquisition Corp.
E045	B	Johnson City-Kingsport-Bristol, TN	Nextel License Acquisition Corp.
E045	C	Johnson City-Kingsport-Bristol, TN	Nextel License Acquisition Corp.
E046	A	Hickory-Morganton, NC-TN	Nextel License Acquisition Corp.
E046	B	Hickory-Morganton, NC-TN	Nextel License Acquisition Corp.
E046	C	Hickory-Morganton, NC-TN	Nextel License Acquisition Corp.
E047	A	Lexington, KY-TN-VA-WV	Nextel License Acquisition Corp.
E047	B	Lexington, KY-TN-VA-WV	Nextel License Acquisition Corp.
E047	C	Lexington, KY-TN-VA-WV	Nextel License Acquisition Corp.
E048	A	Charleston, WV-KY-OH	Nextel License Acquisition Corp.
E048	B	Charleston, WV-KY-OH	Nextel License Acquisition Corp.
E048	C	Charleston, WV-KY-OH	Nextel License Acquisition Corp.
E049	A	Cincinnati-Hamilton, OH-KY-IN	Nextel License Acquisition Corp.
E049	B	Cincinnati-Hamilton, OH-KY-IN	Nextel License Acquisition Corp.
E049	C	Cincinnati-Hamilton, OH-KY-IN	Nextel License Acquisition Corp.
E050	A	Dayton-Springfield, OH	Nextel License Acquisition Corp.
E050	B	Dayton-Springfield, OH	Nextel License Acquisition Corp.
E050	C	Dayton-Springfield, OH	Nextel License Acquisition Corp.
E051	A	Columbus, OH	Nextel License Acquisition Corp.
E051	B	Columbus, OH	Nextel License Acquisition Corp.
E051	C	Columbus, OH	Nextel License Acquisition Corp.
E052	A	Wheeling, WV-OH	Nextel License Acquisition Corp.
E052	B	Wheeling, WV-OH	Nextel License Acquisition Corp.

E052	C	Wheeling, WV-OH	Nextel License Acquisition Corp.
E053	A	Pittsburgh, PA-WV	Nextel License Acquisition Corp.
E053	B	Pittsburgh, PA-WV	Nextel License Acquisition Corp.
E053	C	Pittsburgh, PA-WV	Nextel License Acquisition Corp.
E054	A	Erie, PA	Nextel License Acquisition Corp.
E054	B	Erie, PA	Nextel License Acquisition Corp.
E054	C	Erie, PA	Nextel License Acquisition Corp.
E055	A	Cleveland-Akron, OH-PA	Nextel License Acquisition Corp.
E055	B	Cleveland-Akron, OH-PA	Nextel License Acquisition Corp.
E055	C	Cleveland-Akron, OH-PA	Nextel License Acquisition Corp.
E056	A	Toledo, OH	Nextel License Acquisition Corp.
E056	B	Toledo, OH	Nextel License Acquisition Corp.
E056	C	Toledo, OH	Nextel License Acquisition Corp.
E057	A	Detroit-Ann Arbor-Flint, MI	Nextel License Acquisition Corp.
E057	B	Detroit-Ann Arbor-Flint, MI	Nextel License Acquisition Corp.
E057	C	Detroit-Ann Arbor-Flint, MI	Nextel License Acquisition Corp.
E058	A	Northern Michigan, MI	Nextel License Acquisition Corp.
E058	B	Northern Michigan, MI	Nextel License Acquisition Corp.
E058	C	Northern Michigan, MI	Nextel License Acquisition Corp.
E059	A	Green Bay, WI-MI	Nextel License Acquisition Corp.
E059	B	Green Bay, WI-MI	Nextel License Acquisition Corp.
E059	C	Green Bay, WI-MI	Nextel License Acquisition Corp.
E060	A	Appleton-Oshkosh-Neenah, WI	Nextel License Acquisition Corp.
E060	B	Appleton-Oshkosh-Neenah, WI	Nextel License Acquisition Corp.
E060	C	Appleton-Oshkosh-Neenah, WI	Nextel License Acquisition Corp.
E061	A	Traverse City, MI	Nextel License Acquisition Corp.
E061	B	Traverse City, MI	Nextel License Acquisition Corp.
E061	C	Traverse City, MI	Nextel License Acquisition Corp.
E062	A	Grand Rapids-Muskegon-Holland, MI	Nextel License Acquisition Corp.
E062	B	Grand Rapids-Muskegon-Holland, MI	Nextel License Acquisition Corp.
E062	C	Grand Rapids-Muskegon-Holland, MI	Nextel License Acquisition Corp.
E063	A	Milwaukee-Racine, WI	Nextel License Acquisition Corp.
E063	B	Milwaukee-Racine, WI	Nextel License Acquisition Corp.
E063	C	Milwaukee-Racine, WI	Nextel License Acquisition Corp.

E064	A	Chicago-Gary-Kenosha, IL-IN-WI	Nextel License Acquisition Corp.
E064	B	Chicago-Gary-Kenosha, IL-IN-WI	Nextel License Acquisition Corp.
E064	C	Chicago-Gary-Kenosha, IL-IN-WI	Nextel License Acquisition Corp.
E065	A	Elkhart-Goshen, IN-MI	Nextel License Acquisition Corp.
E065	B	Elkhart-Goshen, IN-MI	Nextel License Acquisition Corp.
E065	C	Elkhart-Goshen, IN-MI	Nextel License Acquisition Corp.
E066	A	Fort Wayne, IN	Nextel License Acquisition Corp.
E066	B	Fort Wayne, IN	Nextel License Acquisition Corp.
E066	C	Fort Wayne, IN	Nextel License Acquisition Corp.
E067	A	Indianapolis, IN-IL	Nextel License Acquisition Corp.
E067	B	Indianapolis, IN-IL	Nextel License Acquisition Corp.
E067	C	Indianapolis, IN-IL	Nextel License Acquisition Corp.
E068	A	Champaign-Urbana, IL	Nextel License Acquisition Corp.
E068	B	Champaign-Urbana, IL	Nextel License Acquisition Corp.
E068	C	Champaign-Urbana, IL	Nextel License Acquisition Corp.
E069	A	Evansville-Henderson, IN-KY-IL	Nextel License Acquisition Corp.
E069	B	Evansville-Henderson, IN-KY-IL	Nextel License Acquisition Corp.
E069	C	Evansville-Henderson, IN-KY-IL	Nextel License Acquisition Corp.
E070	A	Louisville, KY-IN	Nextel License Acquisition Corp.
E070	B	Louisville, KY-IN	Nextel License Acquisition Corp.
E070	C	Louisville, KY-IN	Nextel License Acquisition Corp.
E071	A	Nashville, TN-KY	Nextel License Acquisition Corp.
E071	B	Nashville, TN-KY	Nextel License Acquisition Corp.
E071	C	Nashville, TN-KY	Nextel License Acquisition Corp.
E072	A	Paducah, KY-IL	Nextel License Acquisition Corp.
E072	B	Paducah, KY-IL	Nextel License Acquisition Corp.
E072	C	Paducah, KY-IL	Nextel License Acquisition Corp.
E073	A	Memphis, TN-AR-MS-KY	Nextel License Acquisition Corp.
E073	B	Memphis, TN-AR-MS-KY	Nextel License Acquisition Corp.
E073	C	Memphis, TN-AR-MS-KY	Nextel License Acquisition Corp.
E074	A	Huntsville, AL-TN	Southern Company
E074	B	Huntsville, AL-TN	Nextel License Acquisition Corp.
E074	C	Huntsville, AL-TN	Nextel License Acquisition Corp.
E075	A	Tupelo, MS-AL-TN	Southern Company

E075	B	Tupelo, MS-AL-TN	Nextel License Acquisition Corp.
E075	C	Tupelo, MS-AL-TN	Nextel License Acquisition Corp.
E076	A	Greenville, MS	Cellutech
E076	B	Greenville, MS	Nextel License Acquisition Corp.
E076	C	Greenville, MS	Nextel License Acquisition Corp.
E077	A	Jackson, MS-AL-LA	Nextel License Acquisition Corp.
E077	B	Jackson, MS-AL-LA	Nextel License Acquisition Corp.
E077	C	Jackson, MS-AL-LA	Nextel License Acquisition Corp.
E078	A	Birmingham, AL	Southern Company
E078	B	Birmingham, AL	Nextel License Acquisition Corp.
E078	C	Birmingham, AL	Nextel License Acquisition Corp.
E079	A	Montgomery, AL	Southern Company
E079	B	Montgomery, AL	Nextel License Acquisition Corp.
E079	C	Montgomery, AL	Nextel License Acquisition Corp.
E080	A	Mobile, AL	Southern Company
E080	B	Mobile, AL	Nextel License Acquisition Corp.
E080	C	Mobile, AL	Nextel License Acquisition Corp.
E081	A	Pensacola, FL	Southern Company
E081	B	Pensacola, FL	Nextel License Acquisition Corp.
E081	C	Pensacola, FL	Nextel License Acquisition Corp.
E082	A	Biloxi-Gulfport-Pascagoula, MS	Southern Company
E082	B	Biloxi-Gulfport-Pascagoula, MS	Nextel License Acquisition Corp.
E082	C	Biloxi-Gulfport-Pascagoula, MS	Nextel License Acquisition Corp.
E083	A	New Orleans, LA-MS	Nextel License Acquisition Corp.
E083	B	New Orleans, LA-MS	Nextel License Acquisition Corp.
E083	C	New Orleans, LA-MS	Nextel License Acquisition Corp.
E084	A	Baton Rouge, LA-MS	Nextel License Acquisition Corp.
E084	B	Baton Rouge, LA-MS	Nextel License Acquisition Corp.
E084	C	Baton Rouge, LA-MS	Nextel License Acquisition Corp.
E085	A	Lafayette, LA	Nextel License Acquisition Corp.
E085	B	Lafayette, LA	Nextel License Acquisition Corp.
E085	C	Lafayette, LA	Nextel License Acquisition Corp.
E086	A	Lake Charles, LA	Nextel License Acquisition Corp.
E086	B	Lake Charles, LA	Nextel License Acquisition Corp.
E086	C	Lake Charles, LA	Nextel License Acquisition Corp.
E087	A	Beaumont-Port Arthur, TX	Nextel License Acquisition Corp.

E087	B	Beaumont-Port Arthur, TX	Nextel License Acquisition Corp.
E087	C	Beaumont-Port Arthur, TX	Nextel License Acquisition Corp.
E088	A	Shreveport-Bossier City, LA-AR	Nextel License Acquisition Corp.
E088	B	Shreveport-Bossier City, LA-AR	Nextel License Acquisition Corp.
E088	C	Shreveport-Bossier City, LA-AR	Nextel License Acquisition Corp.
E089	A	Monroe, LA	Nextel License Acquisition Corp.
E089	B	Monroe, LA	Nextel License Acquisition Corp.
E089	C	Monroe, LA	Nextel License Acquisition Corp.
E090	A	Little Rock-North Little Rock, AR	Nextel License Acquisition Corp.
E090	B	Little Rock-North Little Rock, AR	Nextel License Acquisition Corp.
E090	C	Little Rock-North Little Rock, AR	Nextel License Acquisition Corp.
E091	A	Fort Smith, AR-OK	Cellutech
E091	B	Fort Smith, AR-OK	Nextel License Acquisition Corp.
E091	C	Fort Smith, AR-OK	Nextel License Acquisition Corp.
E092	A	Fayetteville-Springdale-Rogers, AR	CELLUTECH
E092	B	Fayetteville-Springdale-Rogers, AR	Nextel License Acquisition Corp.
E092	C	Fayetteville-Springdale-Rogers, AR	Nextel License Acquisition Corp.
E093	A	Joplin, MO-KS-OK	Nextel License Acquisition Corp.
E093	B	Joplin, MO-KS-OK	Nextel License Acquisition Corp.
E093	C	Joplin, MO-KS-OK	Nextel License Acquisition Corp.
E094	A	Springfield, MO	Nextel License Acquisition Corp.
E094	B	Springfield, MO	Nextel License Acquisition Corp.
E094	C	Springfield, MO	Nextel License Acquisition Corp.
E095	A	Jonesboro, AR-MO	Cellutech
E095	B	Jonesboro, AR-MO	Nextel License Acquisition Corp.
E095	C	Jonesboro, AR-MO	Nextel License Acquisition Corp.
E096	A	St. Louis, MO-IL	Nextel License Acquisition Corp.
E096	B	St. Louis, MO-IL	Nextel License Acquisition Corp.
E096	C	St. Louis, MO-IL	Nextel License Acquisition Corp.
E097	A	Springfield, IL-MO	Nextel License Acquisition Corp.
E097	B	Springfield, IL-MO	Nextel License Acquisition Corp.
E097	C	Springfield, IL-MO	Nextel License Acquisition Corp.

E098	A	Columbia, MO	Nextel License Acquisition Corp.
E098	B	Columbia, MO	Nextel License Acquisition Corp.
E098	C	Columbia, MO	Nextel License Acquisition Corp.
E099	A	Kansas City, MO-KS	Nextel License Acquisition Corp.
E099	B	Kansas City, MO-KS	Nextel License Acquisition Corp.
E099	C	Kansas City, MO-KS	Nextel License Acquisition Corp.
E100	A	Des Moines, IA-IL-MO	Nextel License Acquisition Corp.
E100	B	Des Moines, IA-IL-MO	Nextel License Acquisition Corp.
E100	C	Des Moines, IA-IL-MO	Nextel License Acquisition Corp.
E101	A	Peoria-Pekin, IL	Supreme Radio Communications, Inc.
E101	B	Peoria-Pekin, IL	Nextel License Acquisition Corp.
E101	C	Peoria-Pekin, IL	Nextel License Acquisition Corp.
E102	A	Davenport-Moline-Rock Island, IL	Nextel License Acquisition Corp.
E102	B	Davenport-Moline-Rock Island, IL	Nextel License Acquisition Corp.
E102	C	Davenport-Moline-Rock Island, IL	Nextel License Acquisition Corp.
E103	A	Cedar Rapids, IA	Nextel License Acquisition Corp.
E103	B	Cedar Rapids, IA	Nextel License Acquisition Corp.
E103	C	Cedar Rapids, IA	Nextel License Acquisition Corp.
E104	A	Madison, WI-IA-IL	Nextel License Acquisition Corp.
E104	B	Madison, WI-IA-IL	Nextel License Acquisition Corp.
E104	C	Madison, WI-IA-IL	Nextel License Acquisition Corp.
E105	A	La Crosse, WI-MN	Nextel License Acquisition Corp.
E105	B	La Crosse, WI-MN	Nextel License Acquisition Corp.
E105	C	La Crosse, WI-MN	Nextel License Acquisition Corp.
E106	A	Rochester, MN-IA-WI	Nextel License Acquisition Corp.
E106	B	Rochester, MN-IA-WI	Nextel License Acquisition Corp.
E106	C	Rochester, MN-IA-WI	Nextel License Acquisition Corp.
E107	A	Minneapolis-St. Paul, MN-WI-IA	Nextel License Acquisition Corp.
E107	B	Minneapolis-St. Paul, MN-WI-IA	Nextel License Acquisition Corp.
E107	C	Minneapolis-St. Paul, MN-WI-IA	Nextel License Acquisition Corp.
E108	A	Wausau, WI	Nextel License Acquisition Corp.
E108	B	Wausau, WI	Nextel License Acquisition Corp.
E108	C	Wausau, WI	Nextel License Acquisition Corp.

E109	A	Duluth-Superior, MN-WI	Nextel License Acquisition Corp.
E109	B	Duluth-Superior, MN-WI	Nextel License Acquisition Corp.
E109	C	Duluth-Superior, MN-WI	Nextel License Acquisition Corp.
E110	A	Grand Forks, ND-MN	Mid-States Wireless, Inc.
E110	B	Grand Forks, ND-MN	Nextel License Acquisition Corp.
E110	C	Grand Forks, ND-MN	Nextel License Acquisition Corp.
E111	A	Minot, ND	MID-STATES WIRELESS, INC.
E111	B	Minot, ND	Nextel License Acquisition Corp.
E111	C	Minot, ND	Nextel License Acquisition Corp.
E112	A	Bismarck, ND-MT-SD	Mid-States Wireless, Inc.
E112	B	Bismarck, ND-MT-SD	Nextel License Acquisition Corp.
E112	C	Bismarck, ND-MT-SD	Nextel License Acquisition Corp.
E113	A	Fargo-Moorhead, ND-MN	Jamestown Communications, Inc.
E113	B	Fargo-Moorhead, ND-MN	Nextel License Acquisition Corp.
E113	C	Fargo-Moorhead, ND-MN	Nextel License Acquisition Corp.
E114	A	Aberdeen, SD	Jamestown Communications, Inc.
E114	B	Aberdeen, SD	Nextel License Acquisition Corp.
E114	C	Aberdeen, SD	Nextel License Acquisition Corp.
E115	A	Rapid City, SD-MT-ND-NE	Nextel License Acquisition Corp.
E115	B	Rapid City, SD-MT-ND-NE	Nextel License Acquisition Corp.
E115	C	Rapid City, SD-MT-ND-NE	Nextel License Acquisition Corp.
E116	A	Sioux Falls, SD-IA-MN-NE	Nextel License Acquisition Corp.
E116	B	Sioux Falls, SD-IA-MN-NE	Nextel License Acquisition Corp.
E116	C	Sioux Falls, SD-IA-MN-NE	Nextel License Acquisition Corp.
E117	A	Sioux City, IA-NE-SD	Nextel License Acquisition Corp.
E117	B	Sioux City, IA-NE-SD	Nextel License Acquisition Corp.
E117	C	Sioux City, IA-NE-SD	Nextel License Acquisition Corp.
E118	A	Omaha, NE-IA-MO	Nextel License Acquisition Corp.
E118	B	Omaha, NE-IA-MO	Nextel License Acquisition Corp.
E118	C	Omaha, NE-IA-MO	Nextel License Acquisition Corp.
E119	A	Lincoln, NE	Nextel License Acquisition Corp.
E119	B	Lincoln, NE	Nextel License Acquisition Corp.
E119	C	Lincoln, NE	Nextel License Acquisition Corp.
E120	A	Grand Island, NE	Nextel License Acquisition Corp.
E120	B	Grand Island, NE	Nextel License Acquisition Corp.
E120	C	Grand Island, NE	Nextel License Acquisition Corp.
E121	A	North Platte, NE-CO	Cellutech
E121	B	North Platte, NE-CO	Nextel License Acquisition Corp.
E121	C	North Platte, NE-CO	Nextel License Acquisition Corp.

E122	A	Wichita, KS-OK	Nextel License Acquisition Corp.
E122	B	Wichita, KS-OK	Nextel License Acquisition Corp.
E122	C	Wichita, KS-OK	Nextel License Acquisition Corp.
E123	A	Topeka, KS	Nextel License Acquisition Corp.
E123	B	Topeka, KS	Nextel License Acquisition Corp.
E123	C	Topeka, KS	Nextel License Acquisition Corp.
E124	A	Tulsa, OK-KS	Nextel License Acquisition Corp.
E124	B	Tulsa, OK-KS	Nextel License Acquisition Corp.
E124	C	Tulsa, OK-KS	Nextel License Acquisition Corp.
E125	A	Oklahoma City, OK	Nextel License Acquisition Corp.
E125	B	Oklahoma City, OK	Nextel License Acquisition Corp.
E125	C	Oklahoma City, OK	Nextel License Acquisition Corp.
E126	A	Western Oklahoma, OK	Silver Palm Communications, Inc.
E126	B	Western Oklahoma, OK	Nextel License Acquisition Corp.
E126	C	Western Oklahoma, OK	Nextel License Acquisition Corp.
E127	A	Dallas-Fort Worth, TX-AR-OK	Nextel License Acquisition Corp.
E127	B	Dallas-Fort Worth, TX-AR-OK	Nextel License Acquisition Corp.
E127	C	Dallas-Fort Worth, TX-AR-OK	Nextel License Acquisition Corp.
E128	A	Abilene, TX	Silver Palm Communications, Inc.
E128	B	Abilene, TX	Nextel License Acquisition Corp.
E128	C	Abilene, TX	Nextel License Acquisition Corp.
E129	A	San Angelo, TX	Silver Palm Communications, Inc.
E129	B	San Angelo, TX	Nextel License Acquisition Corp.
E129	C	San Angelo, TX	Nextel License Acquisition Corp.
E130	A	Austin-San Marcos, TX	Nextel License Acquisition Corp.
E130	B	Austin-San Marcos, TX	Nextel License Acquisition Corp.
E130	C	Austin-San Marcos, TX	Nextel License Acquisition Corp.
E131	A	Houston-Galveston-Brazoria, TX	Nextel License Acquisition Corp.
E131	B	Houston-Galveston-Brazoria, TX	Nextel License Acquisition Corp.
E131	C	Houston-Galveston-Brazoria, TX	Nextel License Acquisition Corp.
E132	A	Corpus Christi, TX	Nextel License Acquisition Corp.
E132	B	Corpus Christi, TX	Nextel License Acquisition Corp.
E132	C	Corpus Christi, TX	Nextel License Acquisition Corp.
E133	A	McAllen-Edinburg-Mission, TX	Nextel License Acquisition Corp.
E133	B	McAllen-Edinburg-Mission, TX	Nextel License Acquisition Corp.
E133	C	McAllen-Edinburg-Mission, TX	Nextel License Acquisition Corp.

E134	A	San Antonio, TX	Nextel License Acquisition Corp.
E134	B	San Antonio, TX	Nextel License Acquisition Corp.
E134	C	San Antonio, TX	Nextel License Acquisition Corp.
E135	A	Odessa-Midland, TX	Nextel License Acquisition Corp.
E135	B	Odessa-Midland, TX	Nextel License Acquisition Corp.
E135	C	Odessa-Midland, TX	Nextel License Acquisition Corp.
E136	A	Hobbs, NM-TX	Cellutech
E136	B	Hobbs, NM-TX	Nextel License Acquisition Corp.
E136	C	Hobbs, NM-TX	Nextel License Acquisition Corp.
E137	A	Lubbock, TX	Nextel License Acquisition Corp.
E137	B	Lubbock, TX	Nextel License Acquisition Corp.
E137	C	Lubbock, TX	Nextel License Acquisition Corp.
E138	A	Amarillo, TX-NM	Silver Palm Communications, Inc.
E138	B	Amarillo, TX-NM	Nextel License Acquisition Corp.
E138	C	Amarillo, TX-NM	Nextel License Acquisition Corp.
E139	A	Santa Fe, NM	Nextel License Acquisition Corp.
E139	B	Santa Fe, NM	Nextel License Acquisition Corp.
E139	C	Santa Fe, NM	Nextel License Acquisition Corp.
E140	A	Pueblo, CO-NM	Nextel License Acquisition Corp.
E140	B	Pueblo, CO-NM	Nextel License Acquisition Corp.
E140	C	Pueblo, CO-NM	Nextel License Acquisition Corp.
E141	A	Denver-Boulder-Greeley, CO-KS-NE	Nextel License Acquisition Corp.
E141	B	Denver-Boulder-Greeley, CO-KS-NE	Nextel License Acquisition Corp.
E141	C	Denver-Boulder-Greeley, CO-KS-NE	Nextel License Acquisition Corp.
E142	A	Scottsbluff, NE-WY	Cellutech
E142	B	Scottsbluff, NE-WY	Nextel License Acquisition Corp.
E142	C	Scottsbluff, NE-WY	Nextel License Acquisition Corp.
E143	A	Casper, WY-ID-UT	Nevada Wireless
E143	B	Casper, WY-ID-UT	Nextel License Acquisition Corp.
E143	C	Casper, WY-ID-UT	Nextel License Acquisition Corp.
E144	A	Billings, MT-WY	Nevada Wireless
E144	B	Billings, MT-WY	Nextel License Acquisition Corp.
E144	C	Billings, MT-WY	Nextel License Acquisition Corp.
E145	A	Great Falls, MT	Nevada Wireless
E145	B	Great Falls, MT	Nextel License Acquisition Corp.
E145	C	Great Falls, MT	Nextel License Acquisition Corp.

E146	A	Missoula, MT	Nevada Wireless
E146	B	Missoula, MT	Nextel License Acquisition Corp.
E146	C	Missoula, MT	Nextel License Acquisition Corp.
E147	A	Spokane, WA-ID	Nextel License Acquisition Corp.
E147	B	Spokane, WA-ID	Nextel License Acquisition Corp.
E147	C	Spokane, WA-ID	Nextel License Acquisition Corp.
E148	A	Idaho Falls, ID-WY	Nevada Wireless
E148	B	Idaho Falls, ID-WY	Nextel License Acquisition Corp.
E148	C	Idaho Falls, ID-WY	Nextel License Acquisition Corp.
E149	A	Twin Falls, ID	Nevada Wireless
E149	B	Twin Falls, ID	Nextel License Acquisition Corp.
E149	C	Twin Falls, ID	Nextel License Acquisition Corp.
E150	A	Boise City, ID-OR	Nevada Wireless
E150	B	Boise City, ID-OR	Nevada Wireless
E150	C	Boise City, ID-OR	Nextel License Acquisition Corp.
E151	A	Reno, NV-CA	Nevada Wireless
E151	B	Reno, NV-CA	Nextel License Acquisition Corp.
E151	C	Reno, NV-CA	Nextel License Acquisition Corp.
E152	A	Salt Lake City-Ogden, UT-ID	Nextel License Acquisition Corp.
E152	B	Salt Lake City-Ogden, UT-ID	Nextel License Acquisition Corp.
E152	C	Salt Lake City-Ogden, UT-ID	Nextel License Acquisition Corp.
E153	A	Las Vegas, NV-AZ-UT	Nextel License Acquisition Corp.
E153	B	Las Vegas, NV-AZ-UT	Nextel License Acquisition Corp.
E153	C	Las Vegas, NV-AZ-UT	Nextel License Acquisition Corp.
E154	A	Flagstaff, AZ-UT	Nevada Wireless
E154	B	Flagstaff, AZ-UT	Nextel License Acquisition Corp.
E154	C	Flagstaff, AZ-UT	Nextel License Acquisition Corp.
E155	A	Farmington, NM-CO	Nevada Wireless
E155	B	Farmington, NM-CO	Nextel License Acquisition Corp.
E155	C	Farmington, NM-CO	Nextel License Acquisition Corp.
E156	A	Albuquerque, NM-AZ	Nextel License Acquisition Corp.
E156	B	Albuquerque, NM-AZ	Nextel License Acquisition Corp.
E156	C	Albuquerque, NM-AZ	Nextel License Acquisition Corp.
E157	A	El Paso, TX-NM	Nextel License Acquisition Corp.
E157	B	El Paso, TX-NM	Nextel License Acquisition Corp.
E157	C	El Paso, TX-NM	Nextel License Acquisition Corp.
E158	A	Phoenix-Mesa, AZ-NM	Nextel License Acquisition Corp.
E158	B	Phoenix-Mesa, AZ-NM	Nextel License Acquisition Corp.
E158	C	Phoenix-Mesa, AZ-NM	Nextel License Acquisition Corp.

E159	A	Tucson, AZ	Nextel License Acquisition Corp.
E159	B	Tucson, AZ	Nextel License Acquisition Corp.
E159	C	Tucson, AZ	Nextel License Acquisition Corp.
E160	A	Los Angeles-Riverside-Orange CA	Nextel License Acquisition Corp.
E160	B	Los Angeles-Riverside-Orange CA	Nextel License Acquisition Corp.
E160	C	Los Angeles-Riverside-Orange CA	Nextel License Acquisition Corp.
E161	A	San Diego, CA	Nextel License Acquisition Corp.
E161	B	San Diego, CA	Nextel License Acquisition Corp.
E161	C	San Diego, CA	Nextel License Acquisition Corp.
E162	A	Fresno, CA	Nextel License Acquisition Corp.
E162	B	Fresno, CA	Nextel License Acquisition Corp.
E162	C	Fresno, CA	Nextel License Acquisition Corp.
E163	A	San Francisco-Oakland-San Jose, CA	Nextel License Acquisition Corp.
E163	B	San Francisco-Oakland-San Jose, CA	Nextel License Acquisition Corp.
E163	C	San Francisco-Oakland-San Jose, CA	Nextel License Acquisition Corp.
E164	A	Sacramento-Yolo, CA	Nextel License Acquisition Corp.
E164	B	Sacramento-Yolo, CA	Nextel License Acquisition Corp.
E164	C	Sacramento-Yolo, CA	Nextel License Acquisition Corp.
E165	A	Redding, CA-OR	Nevada Wireless
E165	B	Redding, CA-OR	Nextel License Acquisition Corp.
E165	C	Redding, CA-OR	Nextel License Acquisition Corp.
E166	A	Eugene-Springfield, OR-CA	Nevada Wireless
E166	B	Eugene-Springfield, OR-CA	Nextel License Acquisition Corp.
E166	C	Eugene-Springfield, OR-CA	Nextel License Acquisition Corp.
E167	A	Portland-Salem, OR-WA	Nextel License Acquisition Corp.
E167	B	Portland-Salem, OR-WA	Nextel License Acquisition Corp.
E167	C	Portland-Salem, OR-WA	Nextel License Acquisition Corp.
E168	A	Pendleton, OR-WA	Nevada Wireless
E168	B	Pendleton, OR-WA	Nevada Wireless
E168	C	Pendleton, OR-WA	Nextel License Acquisition Corp.
E169	A	Richland-Kennewick-Pasco, WA	Nevada Wireless
E169	B	Richland-Kennewick-Pasco, WA	Nextel License Acquisition Corp.
E169	C	Richland-Kennewick-Pasco,	Nextel License Acquisition Corp.

		WA	
E170	A	Seattle-Tacoma-Bremerton, WA	Nextel License Acquisition Corp.
E170	B	Seattle-Tacoma-Bremerton, WA	Nextel License Acquisition Corp.
E170	C	Seattle-Tacoma-Bremerton, WA	Nextel License Acquisition Corp.
E171	A	Anchorage, AK	Nextel License Acquisition Corp.
E171	B	Anchorage, AK	Nextel License Acquisition Corp.
E171	C	Anchorage, AK	Nextel License Acquisition Corp.
E172	A	Honolulu, HI	Mountain SMR Group
E172	B	Honolulu, HI	Hawaiian SMR Company
E172	C	Honolulu, HI	Nextel License Acquisition Corp.
E173	A	Guam & Northern Mariana Isl.	Nextel License Acquisition Corp.
E173	B	Guam & Northern Mariana Islands	FCC (license was not sold)
E173	C	Guam & Northern Mariana Islands	Communications Pacfic Inc.
E174	A	Puerto Rico & Virgin Islands	High Tech Communications Services, Inc.
E174	B	Puerto Rico & Virgin Islands	Nextel License Acquisition Corp.
E174	C	Puerto Rico & Virgin Islands	North Sight Communications, Inc.
E175	A	American Samoa	Cellutech
E175	B	American Samoa	Nextel License Acquisition Corp.
E175	C	American Samoa	Nextel License Acquisition Corp.

* FCC. *"800 MHz SMR Auction Closes, Winning Bidders in the Auction of 525 Specialized Mobile Radio Licenses,"* Public Notice DA 97–2583, December 9, 1997.